



**ASSESSMENT OF THE DEMAND FOR
AGRICULTURAL MARKET INFORMATION SYSTEMS
IN GHANA**

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Master Thesis

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6 Summary and conclusion

This chapter summarises the main findings of the study. It also highlights the policy implications of the results and makes recommendations for further research.

6.1 Summary of the main results

Agriculture remains the backbone of the Ghanaian economy in terms of its contribution to GDP, employment, provision of raw materials for industry and most important of all, the provision of food for the ever growing population. However the agricultural sector in particular and the economy in general experienced low growth rates in the late 70s to early 80s. In an urgent need to reform the agricultural sector and the economy, the GoG, under the pressure of international lending institutions (particularly the IMF and World Bank) undertook major economic reforms in the early 80s through the Structural Adjustment Programme (SAP) and other growth targeted programmes.

The reforms aimed at transforming the entire agricultural sector, hitherto dominated by subsistence production, to market oriented production in order to boost agricultural growth and contribution to the economic development process. Under the liberalised market economy, prices and profits generated from the market are expected to provide the incentives for the farmers to transform (Stein, 1999). Price incentives are central to agricultural transformation (Timmer, 1998).

As part of the economic reforms, agricultural input and output markets were liberalised leading to the removal of agricultural subsidies and the withdrawal of parastatals from agricultural marketing activities. The adoption of a market economy through the liberalisation of the agricultural sector introduced subsistence farmers to a new production environment characterised by challenges and opportunities.

The challenges of a liberalised economy are, on the one hand, that farmers will have to purchase agricultural inputs at competitive market prices, readjust production to meet market demands in terms of quantity and quality, seek market opportunities and find potential buyers and above all, negotiate output prices to ensure profitability. On the other hand, the market economy presents opportunities that can benefit farmers tremendously. These opportunities include increased marketing avenues, production diversification, and the potentials for increasing incomes through the maximisation of spatial and temporal arbitrage opportunities. The ability of farmers to maximise gains from the market will impact on their incomes, household food security and the entire transformation process.

Market economies depend on information (Shepherd, 1997). Therefore, the ability of subsistence farmers to participate efficiently in the market economy will depend on the information they possess. Well-informed farmers will be able to take advantage of spatial and temporal arbitrage opportunities to maximise their gains and improve household food security and speed up the entire agricultural transformation process

This Master thesis therefore sought to establish the basis for the need of agricultural market information systems in Ghana by analysing the changes that have occurred in farm enterprises over a five-year period (1997-2002). And in addition, establish the linkages between market orientation and agricultural modernisation (use of modern inputs) and household food security in terms of household caloric availability and dietary diversity using various statistical and econometric tools.

This work was built on the conceptual premise that liberalised agricultural markets have direct impact on farmers production and marketing decisions. The decision by farmers to either follow the market oriented (local or export) pathway or subsistence pathway depends on the available market information. The chosen path will impact on their production levels, yields and market access, which are expected to affect their overall income growth, equity and food security status.

6.2 Major findings from the field survey

Changes in production and its impact on household food security were investigated. In order to be able to identify and measure accurately the changes and its associated impact on the farm households, demographic data characteristics of the farmers relevant to the study was analysed. The results indicated that men dominate farming activities in the study area. The ratio of males to females in farming is 6:1. The indications are that the traditional systems of men-headed families as it exists in Ghana is strongly practiced in the area. The majority (80%) of farmers were within the economically active range with the overall mean age of 41.9 years. The mean household size as found in the area is 3.75, which is comparatively low as compared to other countries in SSA.

The results indicted that, most (76.6%) of the farmers cultivated less than 10 acres with the majority in this category (over 60%) cultivating less than 5 acres. Total land holding and number of farmers was found to have an inverse relationship. As farm sizes increase, the number of farmers in larger size category decreases accordingly. In total, farm size holdings have increased consistently over the three-year period (1997, 2000, 2002) considered. The increase was in favour of cash crops. Food crop production stagnated in size. Its share of total

holdings decreased from 54% in 1997 to 32.9% in 2002. On the contrary, cash crop production increased over 62.4% in size and from 46% in 1997 to 67% in 2002 as share of total land holding.

The use of modern cultivation methods has seen a boost over the period. The most common external inputs used by the farmers are fertilizer, herbicides, insecticides, hired labour and ploughing. Comparatively, the use of these inputs except in the case of hired labour increased significantly from 1997 to 2002 both in terms of quantities used and the number of users.

The objectives of production have also changed with increased emphasis for market orientation. Farmers produce for the national (regional, district and local) as well as the export markets. However, the local market still remains the most important in terms of the percentage of farmers patronising it as their first choice (65%). In terms of percentage change, production for export increased from 2% in 1997 to 35% in 2002. This has led to the increased production of cash crops for export with Asian vegetables becoming a popular and a major cash crop in the area.

The study revealed that, output marketing continues to be constrained by seasonal glut and price fluctuations as well as the lack of freedom to participate in markets at will. Produce pricing is dictated with little room for negotiating. The inability of farmers to participate in other markets and the perishable nature of horticultural crops increased their vulnerability to market manipulation. The situation is not different with the export crops. The low negotiation power of farmers is exacerbated in the particular case of export crops by their low market value in the country. Farmers have complained about the exploitative nature of exporters and export merchants who capitalises on the low market value to exploit farmers.

Farmers by large remain their own source of market information. There exists no official market information of any sort in the area. The other important source of information are fellow farmers. Traders also provide information to their customers. However, information provided is limited to current market prices. Historical market information and information on niche markets and chemical regulations are lacking. As a result production is not well timed and according to demand resulting in occasional glut of produce especially the Asian vegetables. Farmers also lacked information on new emerging markets that could help them diversify their production.

6.3 Household commercialisation and its impacts

The analysis of household commercialisation indices indicated a high level (>50%) of market orientation in the area. Most households (98.4%) markets over 50% of their total production.. The level of commercialisation has been found to correlate positively with quantity of inputs used and farm income. Highly commercialised farmers used more inputs than less commercialised farmers. However, labour use among different groups of farmers based on different levels of commercialisation did not differ. A regression analysis of the factors determining household commercialisation indicated that types of crop cultivated (chilli, pineapples, garden eggs, okro, and tomato), inputs used (fertilizers, ploughing, and herbicides) and gender were determining factors.

Results of household caloric availability indicated that root crops (cassava and yam) and cereals (maize and rice) as well as legumes and foods prepared from these crops are the major caloric sources. While differences were observed in the quantities of calories available depending on the level of commercialisation, dietary diversity indicated no significant differences between commercialised and highly commercialised households. However, highly commercialised households are more food secured than the less commercialised at two different levels of measurement, 80% and 100% of total caloric requirement respectively.

6.4 Conclusion and policy implications

The empirical evidence emerging from the study supports the theory that farmers are rational beings responding appropriately to market incentives. Farmers in the study area are changing their production patterns in accordance with market demands. They are changing from subsistence to market oriented production systems by increasing their dependence on the market and external inputs. However, they are constrained by the lack of timely and up-to date information that will enable them respond more effectively to market demands. Price signals that could allow farmers to take advantage of spatial and temporal arbitrage are not effective due to the lack of effective information network. This has allowed traders to pass on high transaction costs to farmers in the form of price dictation while they are likely to increase their profit margins. For farmers to benefit and explore effectively the market opportunities presented by the market economy, information will have to be provided (both current and historical). The provision of market information will help farmers avoid losses through glut. It will also allow them to take advantage of niche markets that could increase their income level.

Increasing farmers' ability to negotiate effectively will improve their willingness to orient towards the market. Lack of transparency, increase monopoly and illegal market restrictions will serve as disincentive to commercialisation.

Finally, expanded cash crop production is likely to increase the caloric availability of farm households in the area. One definite way of reducing food insecurity in the area will be to promote the production of cash crops. This is very important, as cash crop production does not necessarily reduce food crop production.